

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 28, 2014

**MEMORANDUM FOR:** S.A. Stokes, Technical Director  
**FROM:** R.K. Verhaagen and J.W. Plaue  
**SUBJECT:** Los Alamos Report for Week Ending November 28, 2014

**Plutonium Facility–Conduct of Operations:** Last Friday, two workers entered a room under an active loss of ventilation alarm and proceeded to perform work in the restricted area for about an hour. At the time, the entire half of the facility they were working in was under restricted access in support of maintenance activities on the ventilation system. Management discovered their presence when one individual requested support after alarming a contamination monitor while surveying his head. During the fact-finding, personnel discussed issues with three barriers that should have prevented the incident. First, the workers heard the alarm, but did not recognize it and respond appropriately. Personnel noted that in recent years, the samples of the audible alarms were removed from the required facility access training. Second, communication of the status of the facility was insufficient. Specifically, postings and barriers were not placed at the appropriate locations to warn workers of entry into the wing. Third, work scheduling and release processes did not identify the conflict because the work activity was included in a generic work activity that is captured on the plan of the day as ongoing most days. Management tasked corrective actions associated with alarm training and improving communication of the status of the facility.

**Emergency Management:** On Monday, LANL personnel conducted an emergency exercise at the Weapons Engineering Tritium Facility (WETF). The exercise scenario involved a glovebox explosion and fire that injured and contaminated a worker. The Site Representatives noted good constructive criticism during the exercise hot wash with some of the more pertinent issues discussed including:

- Fire department response to the injured worker took more than 30 minutes, largely resulting from communications issues between the Emergency Operations Center, the Facility Incident Command (FIC), and the fire department.
- The fire department staged at a nearby firehouse and assumed the role of Incident Command prior to arriving on scene and without having received a status briefing from the FIC.
- The FIC initially determined that protective actions were unnecessary; however, the Incident Commander nearly an hour later declared a shelter-in-place for a 2100-meter box zone.
- Responders had trouble with the function and availability of radios and telephones.
- Personnel noted the lack of decontamination and monitoring equipment staged in locations outside of the main operating buildings that are typically evacuated in emergencies.
- Controllers provided inject information for facility-instrumented indications that used incorrect units and did not cover all relevant locations.
- WETF personnel indicated that they had identified many of these issues during previous exercises, but they remain unresolved.

The Site Representatives note that despite these fundamental issues, exercise personnel preliminarily determined that nearly all (~63 of 68) of the exercise objectives were met. This result strongly suggests that the exercise objectives are insufficiently challenging to effectively drive needed improvements. Examples of the objectives used in this exercise include: workers obeyed instructions, the FIC ensures 911 is called, the fire department establishes Incident Command, the Emergency Manager approaches the scene with care and uses the proper forms, and an exercise plan was developed. In contrast, not a single objective assessed the timeliness of the response or the correctness of protective actions.